

REMARKS

Claims 1-7 and 9-14 are currently pending in the application, as amended. Claim 8 has been cancelled. Claim 1 has been amended to recite that the weighting system for a pool cue includes a second internal cavity that is larger than a first internal cavity wherein the first and second internal cavities are substantially coaxial relative to each other and an end cap is inserted into the second internal cavity to secure a plurality of weights in the first internal cavity in an assembled configuration. Support for this amendment can be found in specification paragraph numbers 23, 27 and 36 and Figs. 2 and 4-6. Claims 9 and 10 have been rewritten into independent form. Claim 11 has been amended to correct an antecedent basis error. Claim 12 has been amended to include a step directed to inserting an end cap having a head and a shaft into a second cavity of the pool cue until the head is in contact with a terminal end of the handle portion to secure the plurality of weights in the internal cavity. Support for this amendment can be found in specification paragraph numbers 23, 27 and 36 and Figs. 2 and 4-6. Claim 14 has been amended to recite that the internal cavity has a cavity length, a first plug has a first length, a second plug is receivable in an open end of the internal cavity and has a second length that is different from the first length, and the first and second plugs are removably replaced into the open end of the internal cavity of the pool cue to secure a plurality of weight rods in the internal cavity depending upon the length of the weight rods such that the sum of the first or second lengths and the weight rod are substantially equivalent to a cavity length to secure the weight rods securely in the internal cavity. Support for this amendment can be found in specification paragraph numbers 30, 32, 34 and 37 and Figs. 5 and 6. Accordingly, no new matter has been added.

CLAIMS

Claim Rejections – 35 U.S.C. § 112

The Examiner rejected claims 9-11 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner noted that the phrases “the first

end”, “the second end”, and “the head portion” of claims 9-11 lack proper antecedent basis. Applicants respectfully traverse this rejection.

Applicants have amended claims 9-11 to correct the antecedent basis errors. Specifically, the phrases “the second end,” “the first end” and “the head portion” in claims 9-11, respectively, have been amended to recite “a second end,” “a first end” and “a head portion.” Applicants respectfully submit that amended claims 9-11 are in full compliance with 35 U.S.C. § 112, second paragraph and respectfully request that the Examiner reconsider and withdraw the above-listed rejection of claims 9-11, based upon lack of proper antecedent basis.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1 and 12 under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Patent No. 298,111 (Morse). Applicants respectfully traverse this rejection.

Referring to Figs. 1-7, Morse is directed to a billiard cue including heavy weights h and light weights i that are inserted into generally cylindrical holes in various portions of the cue to alter the weight and feel of the cue. Referring to Fig. 3, the heavy and light weights h, i may be secured in a cylindrical hole in a terminal end section A of the pool cue by a screw-plug k. The cue may include additional sections B, C, D, E that are attached to the terminal end section A to construct cues having various lengths. The heavy and light weights h, i may be manipulated within the cylindrical holes to vary the weight and balance of the cue to suit the requirements of a particular player.

Referring to Figs. 1-5, the present application is directed to a weighting system for a pool cue 10 having a handle portion 12 and a shaft portion 14. The handle portion 12 includes a terminal end 12a and a first internal cavity 26 proximate the terminal end 12a. A second internal cavity 22 is located proximate the terminal end 12a and the second internal cavity 22 is larger than the first internal cavity 26. The first and second internal cavities 22, 26 are substantially coaxial with each other along the length of the pool cue 10. An end cap 12 is utilized for insertion into the second internal cavity 22 in an assembled configuration. A plurality of weights 30, 40 is removably installed within the first internal cavity 26. The weights 30, 40 are capable of being individually removed to incrementally reduce the total weight of the pool cue 10 to a desired level. The end cap 20 secures the plurality of weights 30, 40 in the first internal cavity 26 in the assembled configuration.

The weight characteristics of the pool cue 10 may be tailored using the plurality of weights 30, 40 and end cap 20 by inserting the plurality of weights 30, 40 into the first internal cavity 26 and removably inserting at least a portion of the end cap 20 into the second cavity 22 until a head of the end cap 20 is in contact with the terminal end 12a of the handle portion 12. The end cap 20 may be selectively removed such that the plurality of weights 30, 40 may be individually removed from the first internal cavity 26 to incrementally modify the total weight of the pool cue 10 to a desired level.

Claim 1 is directed to a weighting system for a pool cue having a handle portion and a shaft portion, the handle portion having a terminal end and recites:
a first internal cavity proximate the terminal end;
a second internal cavity proximate the terminal end, the second internal cavity being larger than the first internal cavity, the first and second internal cavities substantially coaxial with each other;
an end cap for insertion into the second internal cavity in an assembled configuration; and
a plurality of weights removably installed within the first internal cavity . .
. the end cap securing the plurality of weights in the first internal cavity in the assembled configuration.

Applicants respectfully submit that Morse does not teach, suggest or disclose each and every element of amended claim 1. Specifically, referring to Fig. 3, Morse discloses a plurality of heavy and light weights that are insertable into a cavity in a terminal end of the pool cue to modify the weight and feel of the pool cue. However, Morse does not teach, suggest or disclose the claimed first and second internal cavities that are substantially coaxial to each other, wherein the second internal cavity is larger than the first internal cavity. In addition, Morse does not disclose the claimed end cap that is inserted into the larger second internal cavity in the assembled configuration to secure the weights in the first internal cavity. The cavity at the terminal end of Morse has a constant size and the weights are inserted into the cavity and secured within the cavity by a screw plug k that has the same size as the weights. Accordingly, the weights and screw plug of Morse are inserted into the same internal cavity in an assembled configuration. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of amended claim 1 based upon anticipation by Morse, because Morse does not teach, suggest or disclose each and every element of amended claim 1.

Claim 12 of the present application is directed to a method of tailoring weight characteristics of a pool cue having an end cap with a head and a shaft to preferences of an individual user and recites, *inter alia*:

providing the pool cue having a handle portion . . . having a terminal end, a first internal cavity proximate the terminal end and a second internal cavity proximate the terminal end;

providing a plurality of weights removably installable within the internal cavity;

inserting the plurality of weights into the first internal cavity;

removably inserting at least a portion of the end cap into the second cavity until the head is in contact with the terminal end to secure the plurality of weights in the first internal cavity, and removing the end cap such that the plurality of weights may be individually removed from the first internal cavity to incrementally reduce the total weight of the pool cue to a desired level.

Applicants respectfully submit that Morse does not teach, suggest or disclose each and every step of claim 12 of the present application. Specifically, Morse does not disclose a step of removably inserting at least a portion of the end cap into the second cavity until the head is in contact with the terminal end of the handle portion to secure the plurality of weights in the first internal cavity. In contrast, Morse discloses the screw-plug having a constant cross-sectional size with no portion that is inserted into a second cavity proximate the terminal end of the handle of the pool cue to secure a plurality of weights in a first cavity. The end cap or screw-plug of Morse does not include the head that is in contact with the terminal end of the handle portion of the pool cue in the assembled configuration. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of amended claim 12 based on anticipation by Morse because Morse does not teach, suggest or disclose an end cap with a head that is removably inserted into a second cavity in the handle portion of the pool cue until the head is in contact with the terminal end of the handle portion to secure the plurality of weights in the first internal cavity.

The Examiner rejected claims 8, 9, 11 and 14 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 829,749 (Adorjan I). Applicants respectfully traverse this rejection.

Claim 8 has been cancelled, thereby rendering the rejection of this claim moot.

Referring to Figs. 1 and 2, Adorjan I is directed to a billiard cue having a butt-end with a cavity 2 therein and a plurality of weights and sleeves 11, 12 that are slidably receivable into the cavity 2. The weights 11, 12 have various lengths and are held in the cavity 2 by a head button

1', 8 with a threaded extension 7 that engages threads on an inside diameter of the cavity 2. The weights 11, 12 are removable and replaceable from the cavity 2 to modify the weight and equilibrium of the cue for user desired preferences. The weights 11, 12 are removable and replaceable by unthreading the butt-end 1' or the screw 7' from the handle portion of the cue and removing or rearranging the weights 11, 12.

Referring to Fig. 5, the pool cue 10' of the present application includes a cavity 26' having a length L_{26}' that is located proximate the terminal 12a of the handle portion 12. A plurality of rods 40 having various lengths is provided. A first plug 50 is slidably and releasably received in the internal cavity 26'. The rods 40 are held in place within the cavity 26' by the plug 50. The first internal cavity 26' has a length L_{26}' that is sufficient to accommodate installation of multiple rods 40 therein. A plurality of plugs 50 have different lengths that correspond to various combinations of the plurality of rods 40. Different combinations of the plugs 50 and rods 40 are inserted into the internal cavity 26' to modify the weight characteristics of the pool cue 10'. The various combinations of plugs 50 and rods 40 are inserted into the internal cavity 26 such that the combination of lengths L_{40} of the rods 40 and the length L_{52} of the specific plugs 50 received in the internal cavity 26 correspond to the total length of the cavity L_{26}' .

Claim 9 is directed to a weighting system for a pool cue having a handle portion and a shaft portion, the handle portion having a terminal end and recites:
an internal cavity in the handle portion proximate the terminal end, the cavity having a total length, a closed end and an open end;
a plurality of rods, each of the rods having a length,
a first plug, at least a portion of the plug being adapted to be releasably received in the internal cavity;

wherein:

the rods are slidably received within the cavity;
the rods are held in place within the cavity by the plug; and
the first internal cavity is of sufficient length to accommodate installation of multiple rods therein; and
a plurality of additional plugs of different lengths, each of the first plug and the additional plugs corresponding to a particular combination of rods such that the sum of the length of the portion of a second end of each plug received in the internal cavity and the length of the particular corresponding rod combination matches the total length of the cavity.

Applicants respectfully submit that Adorjan I does not teach, suggest or disclose each and every element of amended claim 9. Specifically, Adorjan I does not teach, suggest or disclose

the plurality of plugs having different lengths, a plurality of rods having different lengths and a first internal cavity having a sufficient length to accommodate installation of multiple rods wherein each of the first plug and the additional plugs correspond to a particular combination of rods such that the sum of the length of the portion of the second end of each plug received in the internal cavity and the length of the particular corresponding rod combination matches the total length of the cavity. Adorjan I discloses a single head button or plug having a fixed length for an individual pool cue and weights having various lengths that are disposed into a fixed length cavity abutted at one end by the plug. There is no teaching, suggestion or disclosure in Adorjan I of a plurality of head buttons or plugs having different lengths to accommodate various combinations of weights in an internal cavity. In addition, there is no teaching, suggestion or disclosure in Adorjan I that specific rod and plug combinations are associated with each other to match the total length of the internal cavity. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of amended claim 9 based upon anticipation by Adorjan I.

Claim 11 is dependent upon amended claim 9. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claim 11 based upon anticipation by Adorjan I for the same reasons outlined above and directed to amended claim 9.

Amended claim 14 is directed to a method of tailoring weight characteristics of a pool cue to preferences of an individual user and recites:
providing a pool cue including:
a handle portion and a shaft portion, the handle having a terminal end;
an internal cavity in the handle portion proximate the terminal end, the internal cavity having a closed end and an open end, the internal cavity having a cavity length;
a first plug releasably receivable in the open end of the internal cavity, the first plug having a first length;
a second plug being receivable in the open end of the internal cavity, the second plug having a second length that is different than the first length;
providing a plurality of weight rods;
removing the first plug from the open end of the internal cavity;
installing a sufficient number of the plurality of weight rods within the internal cavity to provide the pool cue with the weight characteristics in accordance with the user's preferences;
replacing the first plug in the open end of the internal cavity to secure the weight rods within the internal cavity such that the sum of the first length and the length of the selected plurality of weight rods is substantially equivalent to the cavity length;

removing the first plug and the plurality of weight rods from the internal cavity;
installing a different number of the plurality of weight rods within the internal cavity to provide the pool cue with a different weight characteristic in accordance with user's preferences; and
inserting the second plug into the open end of the internal cavity to secure the different number of the plurality of weight rods within the internal cavity such that the sum of the second length and the length of the selected plurality of weight rods is substantially equivalent to the cavity length.

Similar to the above-listed argument directed to amended claim 9, Adorjan I does not teach, suggest or disclose inserting and removing plugs having various lengths into an internal cavity at the terminal end of the handle portion of a pool cue that correspond to different numbers of a plurality of weight rods such that the sum of the length of the plugs and weight rod combinations are substantially equivalent to the cavity length. Adorjan I discloses the single head button having a fixed length for an individual pool cue and weights having various lengths that are disposed into a fixed length cavity and abutted at one end by the plug. Accordingly, in Adorjan I, the weights must be combined to encompass a specific length when using the single disclosed plug. That is, Adorjan I does not disclose plugs having various lengths that are insertable into the internal cavity to modify the remaining length of the cavity that is filled by various combinations of weighted rods. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of amended claim 14 based upon anticipation by Adorjan I.

Claim Rejections – 35 U.S.C. § 103

The Examiner rejected claims 2-7 and 13 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,232,613 (Laube) in view of U.S. Patent No. 835,489 (Adorjan II). The Examiner argues that Laube discloses each and every element of claims 2-7 and 13 with the exception of using a plurality of removable weights. The Examiner further argues that Adorjan II shows that it is known in the art to use a plurality of removable weights to adjust the cue to the particular user and it would have been obvious to one having ordinary skill in the art to have done the same with Laube's weight for the same reason. The Examiner also argues that it would have been obvious to have provided Laube's cue stick with a plug to seal the end of the stick and absent a showing of unexpected results the exact dimensions and weights of Laube and Adorjan

II would have been obvious to the ordinary skilled artisan depending on the degree of weight and balance one wished to provide for the stick. Applicants respectfully traverse this rejection.

Referring to Figs. 1-6, Laube is directed to a cue stick including shaft and handle portions 12, 14 and a connecting portion 16. Referring specifically to Fig. 2, an elongated sleeve 100 is threadably mounted in a terminal end of the handle portion 14 and a threaded weight 110 is movably mounted internally in the sleeve 100. The weight 110 may be moved along the length of the sleeve 100 by turning the weight 110 clockwise or counterclockwise using a screwdriver in association with a notch 112. The weight 110 may be adhesively bonded in the sleeve 100 once desired balance characteristics are obtained.

Referring to Figs. 1-5, Adorjan II is directed to a billiard cue having a cavity 1 in a terminal end of a handle portion of the cue. The cavity 1 removably retains masses 9, rods 11 or sleeves 12, 13 therein without the masses 9, rods 11 or sleeves 12, 13 touching the inner walls of the cavity 1 (col. 2, lines 68-73). In an operating position, a butt-end 7 is screwed onto the terminal end of the handle portion and a plug or packing 10 exerts pressure on the masses 9, rods 11 and sleeves 12, 13 to hold them absolutely immovable in the cavity 1 to eliminate noise from moving masses 9. The masses 9, rods 11 and sleeves 12, 13 are removable and replaceable from the cavity 1 to alter the center of gravity and/or feel of the cue.

Referring to Figs. 2-4, the pool cue 10 of the present application may include an internally threaded first internal cavity 26 in the handle portion 12. A plurality of externally threaded rods 30 have a predetermined diameter, a first end 30a and second end 30b. A tool fitting 32, preferably a Phillips-head screwdriver slot 32, is formed at least at the first end 30a. The threaded rods 30 are adapted for threaded engagement with the internally threaded wall of the first internal cavity 26 and the first internal cavity 26 is of sufficient length to accommodate installation of multiple threaded rods 30 therein.

Claim 2 of the present application is directed to a weighting system for a pool cue having a handle portion and a shaft portion, the handle portion having a terminal end and recites:

a first internal cavity in the handle portion proximate the terminal end and
having an internally threaded wall;

a plurality of externally threaded rods, each rod having:

a predetermined diameter;

a first end and a second end; and

a tool fitting formed within at least the first end,

wherein the threaded rods are adapted for threaded engagement with the internally threaded wall and wherein the first internal cavity is of sufficient length to accommodate installation of the multiple threaded rods therein.

When making a rejection under 35 U.S.C. § 103, an Examiner has the burden of establishing a *prima facie* case of obviousness. The Examiner satisfies this burden only by showing: 1) some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, 2) a reasonable expectation of success and 3) the prior art references teach or suggest all of the claim limitations (MPEP 706.02(j)). The teaching or suggestion to make the claimed combination and reasonable expectation of success must be found in the prior art and not from the applicant's disclosure (MPEP 706.02(j)). Further, the mere fact that the prior art could be modified in the manner proposed by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification. Ex parte Dussaud, 7 U.S.P.Q. 2d 1818, 1820 (PTO Bd. App. & Int. 1988).

Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness with respect to amended claim 2 and, therefore, amended claim 2 is patentable over the combination of Laube in view of Adorjan II. Amended claim 2 recites that the plurality of threaded rods have a predetermined diameter and the rods are adapted for threaded engagement with an internally threaded wall of the cavity. Accordingly, the outside diameters of the threaded rods are in direct engagement with the internal diameter of the cavity. One having ordinary skill in the art would not modify the pool cue of Laube to include a plurality of externally threaded weights for insertion into the internally threaded cavity based upon the teachings of Adorjan II, because Adorjan II specifically teaches away from positioning weights in the internal cavity of the pool cue such that the weights are touching the internal walls or internal diameter of the cavity. Adorjan II teaches that the weights should not touch the internal diameter of the cavity because such constructions create noise when weights are in contact with an internal diameter of the cavity (Adorjan II, col. 2, lines 68-73). The engagement of weights and sleeve may be relatively loose and one having ordinary skill in the art would not modify Laube to include weights touching an internal wall of a cavity based upon the teachings of Adorjan II due to the noise disadvantage described in Adorjan II. Based upon the above,

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Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claim 2 based upon unpatentability over Laube in view of Adorjan II.

Claims 3-7 are dependent upon amended claim 2. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw any rejection of claims 3-7 based upon unpatentability over Laube in view of Adorjan II for at least the reasons discussed above and directed to amended claim 2.

CONCLUSION

In view of the foregoing Amendment and remarks, Applicants respectfully submit that the present application, including claims 1-7 and 9-14, is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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